



**TE LLC (part of AEPS-GROUP)** - is a Russian manufacturer of compact secondary power sources with an ultra-low profile for industrial automation, computer technology, telecommunications and communications. The orientation of our modules to a conductive heat sink and a low profile allows them to be used on mobile objects, in radars and supercomputers, in information screens, robots, where the use of fans is extremely undesirable, including in equipment operating in explosive and other adverse environments, in mobile land, sea, aviation applications.

The products of Alexander Electric are also meant to be used in mission-critical systems. Operation in emergency conditions, operation in case of compromised sealing of the equipment compartment, short-term higher than max power delivery, short-term full-functions performance when subjected to input voltage surge or drop.

Maximal power density with optimal planarity.

**AC/DC** products are offered with maximal operating case temperature range of **-50 ... +85 °C** with output power of up to 1200 W.

**DC/DC** products are offered with maximal operating case temperature range of **-60 ... +110 °C** with output power of up to 1 000 W.

Also, we specialize in development and production of customized units and power blocks.

## Product range – made in Russia

### AC/DC power supply units (≤38 mm; -50...+85°C)

Series name	Max Power	Product type	Case type
<b>JETAs</b>	1200 W	<b>AC/DC</b> 1-phase	Metal case, <b>with mounting holes</b>

### Dual input AC-DC/DC power supply units with external components (≤16 mm; -60...+110°C)

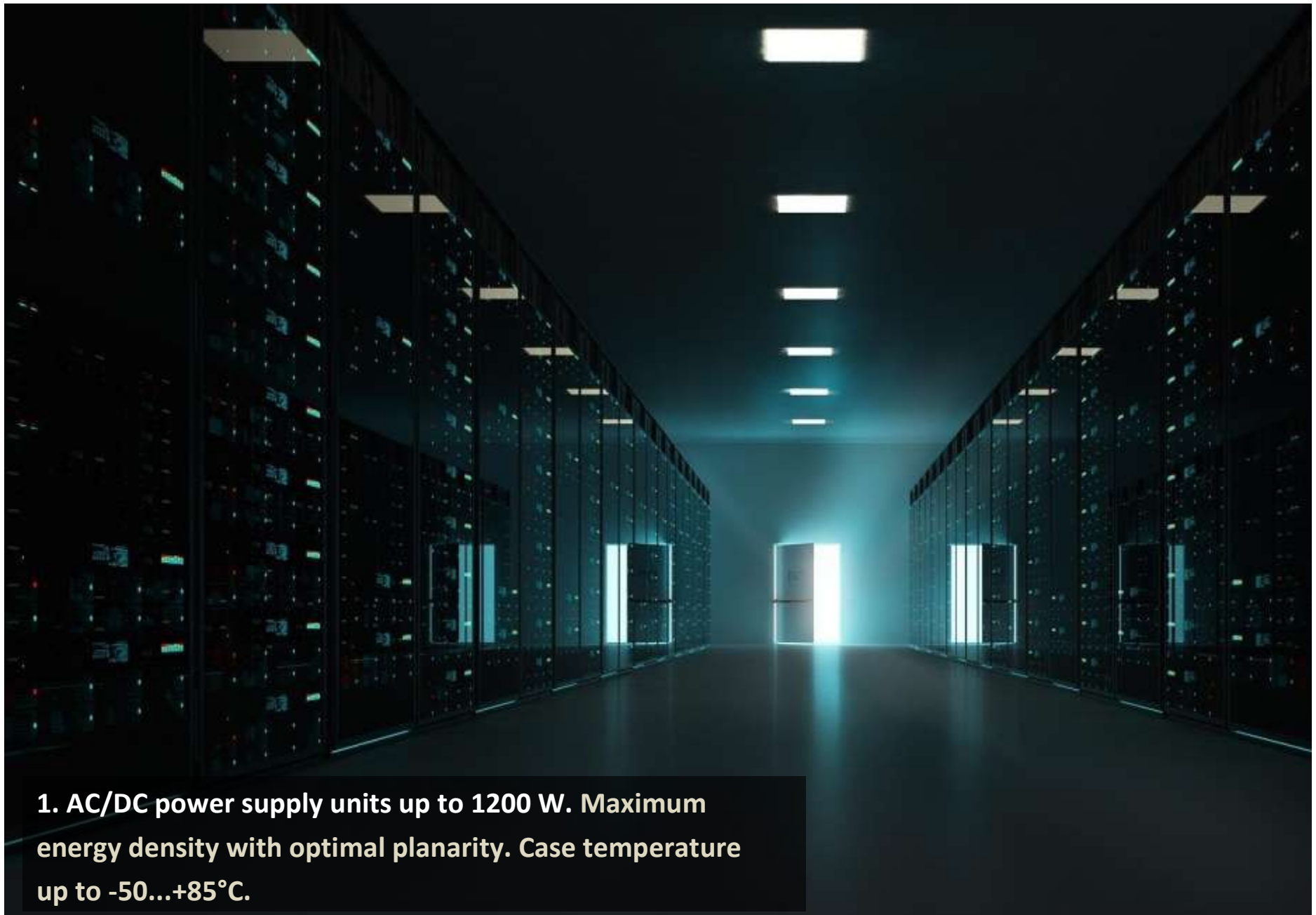
Series name	Max Power	Product type	Case type
<b>TESAV (TESH)</b>	1000 W	<b>AC-DC/DC</b> dual input	Metal case, <b>with mounting holes</b>

### DC/DC converters (≤16 mm; -60...+110°C)

Series name	Max Power	Product type	Case type
<b>TESDs</b>	100 W	<b>DC/DC</b>	Metal case, <b>with mounting flanges</b>
<b>TESD</b>	200 W	<b>DC/DC</b>	Metal case, <b>with mounting flanges</b>

### Units of filtering and suppression

Series name	Max Current	Product type
<b>JETAF</b>	20 A	<b>AC/AC</b> units of filtering and suppression of short-time voltage surges for AC mains
<b>JETDF</b>	20 A	<b>DC/DC</b> units of filtering and suppression of short-time voltage surges for DC mains



**1. AC/DC power supply units up to 1200 W. Maximum energy density with optimal planarity. Case temperature up to -50...+85°C.**

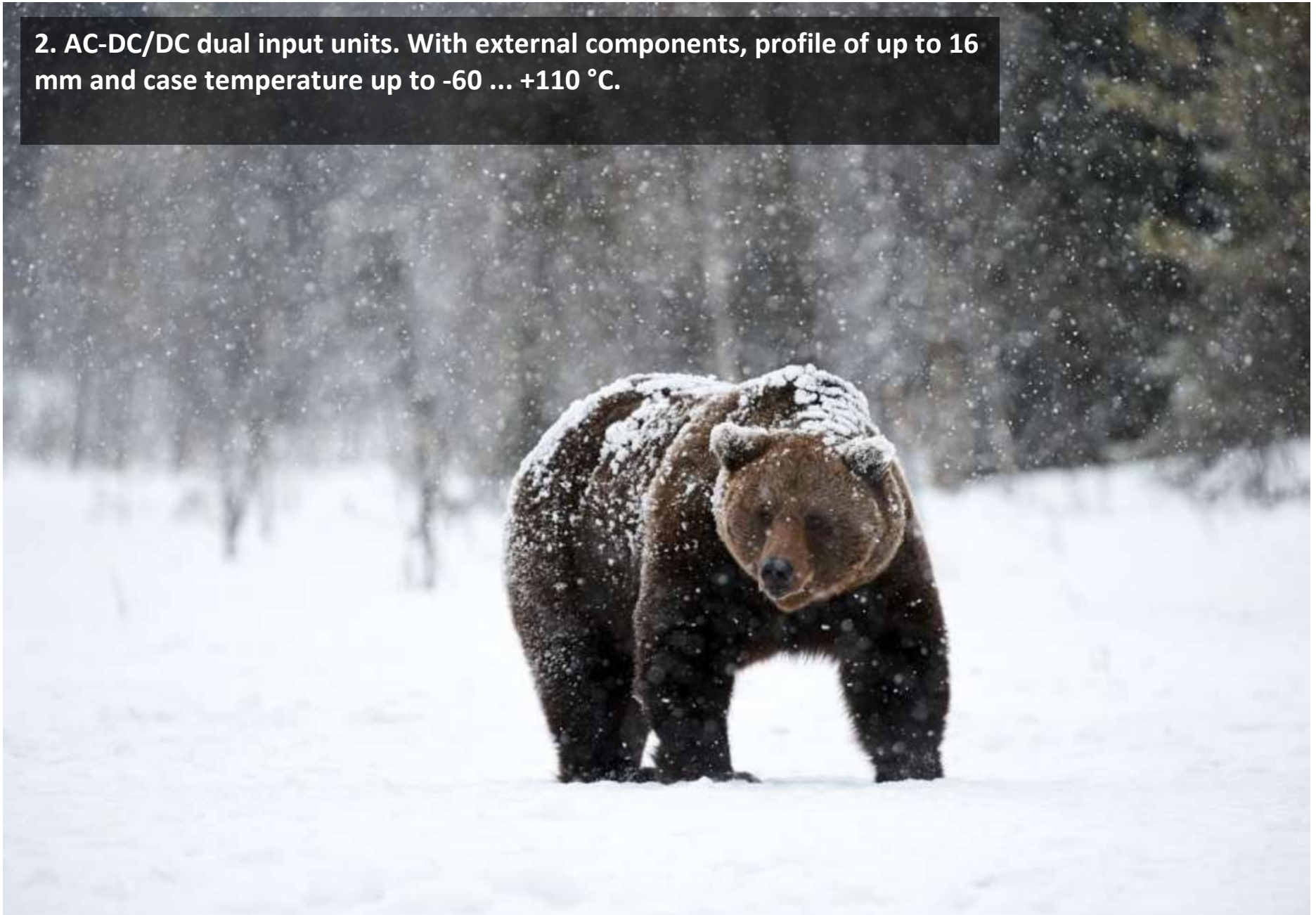
**JETAs Series** – AC/DC single-phase converters in **low-profile** milled metal housings with high energy density and efficiency up to 95%. The case temperature is up to **-50 ... +85 °C**. This series replaces the modules of the previous generations TESA40-TESA1000, JETA60-JETA1200 with the preservation of overall and connecting dimensions.

Maximal output power, W	Unit type	Case variant Dimensions, mm	Possible output power on request, W	Maximal output current, A	Possible output voltages, V	Power density, W/inch <sup>3</sup>	Power Factor (-)	Number of outputs, with galvanic outputs isolation	Input range ~115 (~80-138 V), transient ~150 V	Input range ~230 (~176 -242 V), transient ~264 V	Operating case temperature -50... +85°C	Insulation input-output, ~kV AC	Remote ON/OFF	Output trimming	External feedback	Isolated output «Power Good»	EMC standard			
																	EN55022 (GOST P51318.22) Class B	EN55022 (GOST P51318.22) Class A	MIL-STD-461 CE	
60	JETAs60	A1 101x51x19	30, 40, 60	12	5-60	10	0.67	1,2	x	•	•	~3					•		•	
120	JETAs120	A2 111x61x21	80, 100, 120	24		14	0.67	1,2	x	•	•	•	~3					•		•
300	JETAs300	A3 134x84x27,5	150, 250, 300	30		16	0.96	1,2	x	•	•	•	~3	•	•		JETAF5	•		•
700	JETAs700	A4 175x93x29	500, 600, 700	50	12-60	25	0.96	1,2	x	•	•	~3	•	•	•	x	JETAF10	•		•
1200	JETAs1200	A5 211x117x38	1000, 1200	60	15-60	21	0.96	1	x	•	•	~3	•	•	•	x	JETAF10	•		•

Notes: •-available, x-on request, blue shade marks standard input voltage range.



**2. AC-DC/DC dual input units. With external components, profile of up to 16 mm and case temperature up to -60 ... +110 °C.**



**TESAV (TESH) Series – dual-input** low-profile **AC-DC/DC** converters to be used additional external components and operated at AC and/or DC input voltage ranges, in metal cases with mounting flanges. Case temperature range up to **-60 ... +110 °C**. DC voltage can be fed directly to +IN,-IN inputs, bypassing internal bridge rectifier. **TESH series contain single input** to be used with high voltage DC input range.

Maximal output power, W	Unit type	Case variant Dimensions, mm	Possible output power on request, W	Maximal output current, A	Possible output voltages, V	Power density, W/inch <sup>3</sup>	Number of outputs, With galvanic outputs isolation	for TESAV		for TESH		Operating case temperature range <b>-60...+110°C</b>	Insulation input-output, =kV	Remote ON/OFF	Output trimming	External feedback	Parallel operation	Output "DIAG"	EMC Standard EN55022 (GOST P 51318.22) Class A/B, MIL-STD-461CE
								Input ~ <b>115</b> (~ <b>80-138 V</b> и/или = <b>113-196 V</b> ), transient ~150 V and/or =210 V	Input ~ <b>230</b> (~ <b>176-264 V</b> and/or = <b>140-370 V</b> ), Without transient	Input = <b>110</b> (=66-160 V), transient =170 V	Input = <b>230</b> (=175-372 V)								
100	TESAV(H)100	F5:73x53x13	50, 100	20	5-60	32	1,2	•	•	•	•	•	1.5	•	•				External filter
200	TESAV(H)200	F6:95x68x13	150, 200	30	12-60	39	1	•	•	•	•	•	1.5	•	•	•	•		External filter
500	TESAV(H)500	F7:110x84x15	300, 500	42	12-60	59	1	•	•	•	•	•	1.5	•	•	•	•		External filter
1000	TESAV(H)1000	F8:168x110x16	700, 1000	42	24-60	55	1	•	•	•	•	•	1.5	•	•	•	•	•	External filter

Notes: •- available, blue shade marks standard input voltage



**3. DC/DC converters. Maximum power density with optimal planarity. The case temperature is up to  $-60...+110^{\circ}\text{C}$ .**

**TESD Series** - DC/DC converters in reinforced metal housings with mounting heat-removing flanges to maintain serial production of equipment. The case temperature is up to **-60...+110°C**. The developed surface of the housing with flanges and high efficiency allow minimizing the size of heat sinks.

Maximal output power, W	Unit type	Case variant Dimensions without flanges, mm	Possible output power on request, W	Maximal output current, A	Possible output voltages, V	Power density, W/inch <sup>3</sup>	Number of outputs, with galvanic outputs isolation	Input 28W (16 - 50 V), transient 80 V	Input 12W (10,2 - 36 V), transient 80 V	Input 24W (18 - 75 V), transient 80 V	Operating case temperature -60...+110°C	Insulation input-output, kV	Remote ON/OFF	Output trimming	External feedback	Parallel operation	EMC Standard		
																	Additional filtration To improve EMC profile	MIL-STD-461 CE	
10	TESD10	F1:30x20x10	5, 10	2	3.3-48	27	1,2	•	•	•	•	=1.5	•	•			JETDF2.5	•	
15	TESD15	F2:40x30x11	10, 15	3		18	1,2	•	•	•	•	•	=1.5	•	•			JETDF5	•
30	TESD30	F3:48x33x11	20, 30	6		28	1,2	•	•	•	•	•	=1.5	•	•			JETDF10	•
60	TESD60	F4:58x40x11	40, 60	12		38	1	•	•	•	•	•	=1.5	•	•			JETDF20	•
100	TESD100	F5:73x53x13	80, 100	20	5-48	32	1	•	•		•	=1.5	•	•	•		JETDF20	•	
200	TESD200	F6:95x68x13	150, 200	40	12-48	39	1	•	•		•	=1.5	•	•	•	•	External filter	•	

**Notes:** • - available, blue shade marks standard input voltage



**TESDs Series** – DC/DC converters with ultra-wide DC electrical network **48W (9...80 V)** in reinforced metal housings with mounting heat-removing flanges. The case temperature is up to **-60 ... +110°C**. The developed surface of the housing with flanges and high efficiency allow minimizing the size of heat sinks.

Maximal outpou power, <b>W</b>	Unit type	Case variant Dimensions without flanges, <b>mm</b>	Possible output power on request, <b>W</b>	Maximal output current, <b>A</b>	Possible output voltages, <b>V</b>	Power density, <b>W/inch<sup>3</sup></b>	Number of outputs, with galvanic outputs isolation	Input <b>48W (9 - 80 V)</b> , transient 100 V	Input <b>12W (10,2 - 36 V)</b> , transient 80 V	Input <b>24W (18 - 75 V)</b> , transient 80 V	Operating case temperature <b>-60...+110°C</b>	Insulation input-output, <b>kV</b>	Remote ON/OFF	Output trimming	External feedback	Parallel operation	EMC Standard		
																	Additional filtration To improve EMC profile	MIL-STD-461 CE	
<b>15</b>	<b>TESDs15</b>	<b>F1:30x20x10</b>	10, 15	<b>3</b>	3.3-48	<b>41</b>	1	•	•	•	•	=1.5	•	•			JETDF2.5	•	
<b>25</b>	<b>TESDs25</b>	<b>F2:40x30x11</b>	15, 25	<b>5</b>		<b>31</b>	1	•	•	•	•	•	=1.5	•	•			JETDF5	•
<b>50</b>	<b>TESDs50</b>	<b>F3:48x33x11</b>	40, 50	<b>10</b>		<b>47</b>	1	•	•	•	•	•	=1.5	•	•			JETDF10	•
<b>100</b>	<b>TESDs100</b>	<b>F4:58x40x11</b>	80,100	<b>20</b>		<b>64</b>	1	•	•	•	•	•	=1.5	•	•			JETDF20	•

**Notes:** • - available, blue shade marks standard input voltage



**3. Units of filtering-suppression for improving EMC profile and suppressing surges**

**JETAF Series** - AC/AC modules of short-term emission amplitude limiter filters for AC networks in metal cases, JETAF1 - in aluminum case F4 with mounting flanges.

This series replaces the limiter filters of previous generations: TEFA1 - TEFA20.

Nominal current, A	Filter type	Dimensions without flanges, mm	Input ~115 (80 - 138 V)	Input ~230 (182 - 264 V)	Input ~230W (100 - 264 V)	Input ~400 (304 - 456 V) 3 phase	Operating case temperature -60 ... +110 °C	Insulation from case to input/output, ~kV	Insrtion loss
1	JETAF1	F4:58x40x10	•	•	•		•	~1,5	20-55 dB
5	JETAF5	A1:101x51x20	•	•	•		•	~1,5	20-55 dB
10	JETAF10	A2:111x61x24	•	•	•		•	~1,5	20-55 dB
20	JETAF20	A3:134x84x28	•	•	•		•	~1,5	20-55 dB
15	JETAF15-380	A3:134x84x28				•	•	~1,5	20-55 dB

**Notes:** • - available, blue shade marks standard input voltage

**JETDF Series** - DC/DC modules of short-term emission amplitude limiter filters for DC networks.

This series replaces the limiter filters of previous generations: TEFD2.5 - TEFD20.

Nominal current, A	Filter type	Case type	Dimensions without flanges, mm	Input <b>12W (9 - 40 V)</b> , suppression 44-49 V	Input <b>24W (17 - 84 V)</b> , suppression 94-104 V	Operating case temperature <b>-60 ... +125 °C</b>	Insulation from case to input/output, ~kV	Insertion loss
<b>2.5</b>	<b>JETDF2.5</b>	<b>F1:30x20x10</b>	30x20x10	•	•	•	=1	15-55 dB
<b>5</b>	<b>JETDF5</b>	<b>F2:40x30x10</b>	40x30x10	•	•	•	=1	15-55 dB
<b>10</b>	<b>JETDF10</b>	<b>F3:48x33x10</b>	48x33x10	•	•	•	=1	15-55 dB
<b>20</b>	<b>JETDF20</b>	<b>F4:58x40x10</b>	58x40x10	•	•	•	=1	15-55 dB

**Notes:** • - available, blue shade marks standard input voltage